

# **APPROPRIATIONS REQUEST FORM OREGON HOUSE DELEGATION FISCAL YEAR 2010**

**Project Title:** High Temperature Materials Development

**Organization Name and address:**

Precision Castparts Corporation  
4650 South Macadam Ave. Suite 300  
Portland, OR 97239

**Primary Contact name, phone number, mobile number, fax number and e-mail:**

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**Project Location Address (if different from Organization):**

Same as above

**Describe the organization's main activities, and whether it is a public, private non-profit, or private for-profit entity:**

PCC is a public traded, for profit entity.

**Briefly describe the activity or project for which funding is requested (please keep to 250 words or less, subcommittee online submission will not accept more):**

Advanced aerospace engines today are a conglomerate of specialty materials aimed at one goal, providing higher performance (thrust to weight, and specific fuel consumption) for the aircraft that they support.

As DOD and commercial requirements for performance, fuel consumption, and economy increase, engineers and designers literally turn up the heat on their engines to meet these requirements. Higher core temperature provides higher efficiencies, thrust levels, and reduced fuel consumption. These design requirements specify the need for higher temperature materials and the need for more complexity in the designs themselves. Complexity requirements might include thinner walls, tighter radii, and/or complex shapes.

There are basically two ways to make these complex components. They can be cast or fabricated. This is followed by some degree of machining. PCC is a world wide manufacturing leader in the investment casting market and supplies a broad range of both low temperature and high temperature components used in jet engines today.

Work needs to continue in process development to manufacture components out of these high temperature materials made of predominately nickel and cobalt based materials. Developments are needed in casting, welding, and tolerance improvement to allow continued production of these components in both structural and airfoil shapes. Advancements in fabrication techniques

and equipment has caused previous cast options to migrate to fabrications. Within the last six months a major program was lost and will be fabricated in Europe.

PCC is seeking 3.0M in funding to advance our manufacturing capability to successfully produce this type of product.

**Has this project received federal appropriations funding in past fiscal years?:** No

**If yes, please provide fiscal year, Department, Account, and funding amount of any previous funding:** N/A

**Federal agency and account from which funds are requested (Please be specific –e.g. Department of Housing and Urban Development, Economic Development Initiatives account):** USAF RDT&E, Manufacturing Technologies, PE # 0603680F

**What is the purpose of the project? Why is it a valuable use of taxpayer funds? How will the project support efforts to improve the economy and create jobs in Oregon?:**

This important initiative will provide us with the ability to meet Department of Defense (DoD) demands for advanced aerospace engines aimed at one goal, providing higher performance (thrust to weight, and specific fuel consumption) for the aircraft that they support. Without this ongoing investment this manufacturing capability will move overseas. Our ability to respond to national security issues will be compromised. Within the last six months a major program was lost and will be fabricated in Europe.

The benefit of continuing this type of development work to Oregon is continued employment of approximately (number) 100-200 Engineers and manufacturing personnel at our facilities in Oregon and Ohio and prevents loss of work outside the US. As time progresses, the number of components manufactured in these new structural materials is anticipated to rise creating more opportunity for employment.

**Have you requested funding for this project from other Members of Congress?  
If so, who?**

Congressman Steven LaTourette

## Funding Details

- I. Total project cost (all funding sources and all years): \$3.0M**
- II. Amount being requested for this project in Fiscal Year 2010: \$3.0M**
- III. What other funding sources (local, regional, state) are contributing to this project or activity? (Please provide specific dollar amount or percentage.):**  
None
- IV. Do you expect to request federal funding in future years for this project?**  
If the project is fully funded we do not expect to request federal funding in future years for this project.
- V. Breakdown/budget of the amount you are requesting for this project in FY 2010. (e.g. salary \$40,000; computer \$3,000):**  
  
90% of the funding will be used to pursue innovative production and testing techniques, paying the salaries for PCC employees. 10% of the funds will be used to provide government oversight and program management.
- VI. Please list public or private organizations that have supported/endorsed this project:**  
USAF  
Dr. Howard Sizek  
AFRL/RXMP  
Ph: 937-904-4389  
Howard.Sizek@wpafb.af.mil
- VII. Is this project scalable? (i.e. if partial funding is awarded, will the recipient organization be able to use the funds in FY 2010?):**  
Yes